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CORRESPONDENCE CONTROL

**Department of Energy**

ROCKY FLATS PROJECT OFFICE
12101 AIRPORT WAY, UNIT A
BROOMFIELD, COLORADO 80021-2583

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| DIST. | LTR | ENC |
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| BERARDINI, J.H. | X | X |
| BOGNAR, E.S. | X | X |
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| CROCKETT, G. A. | X | X |
| DECK, C. A. | X | X |
| DEGENHART, K. R. | X | X |
| DEL VECCHIO, D. | | |
| FERRERA, D. W. | X | X |
| GIACOMINI, J. J. | | |
| GILPIN, H. | | |
| LINDSAY, D. C. | X | X |
| LONG, J. W. | | |
| NESTA, S. | | |
| SHELTON, D. C. | X | X |
| TUOR, N. R. | X | X |
| WARD, D. | X | X |
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| ADMIN. RECORD | X | X |

Reviewed for Addressee
Corres. Control RFP
7/13/05 dc
Date By

Ref. Ltr. #

DOE ORDER #
5400.1

Mr. Steve Gunderson
Rocky Flats Cleanup Agreement Project Coordinator
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Mr. Mark Aguilar
Rocky Flats Cleanup Agreement Team Leader
United States Environmental Protection Agency
999 18th Street, Suite 500
Denver, Colorado 80202-2466

Dear Mr. Gunderson and Mr. Aguilar:

Enclosed is the Rocky Flats Cleanup Agreement Implementation Quarterly Status Report for the Third Quarter for fiscal year 2005.

If you have any questions or comments, please contact me at (303) 966-6246 or Richard Schassburger at (303) 966-4888.

Sincerely,

John J. Rampe, Director
RFPO Closure Project Management

Enclosure

cc w/Enc:
F. Lockhart, RFPO
R. Schassburger, RFPO
D. Shelton, KH
L. Brooks, KH

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JUL 14 2005

ADMIN RECORD

SW-A-005102

# QUARTERLY STATUS REPORT

# ROCKY FLATS CLEANUP AGREEMENT IMPLEMENTATION

# ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

# THIRD QUARTER FISCAL YEAR 2005

## TABLE OF CONTENTS



## LIST OF TABLES

# 1.0 INTRODUCTION

Pursuant to paragraphs 122 and 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS). For the purposes of this report, the term, the Site, refers to both DOE and the Kaiser-Hill Company, L.L.C. (Kaiser-Hill).

This report describes activities that occurred from April 2005 through June 2005 (referred to as the third quarter of fiscal year [FY] 05). The sections of this report are organized into the following topics: (1) Introduction; (2) Site-wide Activities Implementing RFCA and Supporting RFETS Closure; (3) RFETS Closure Projects; (4) Water Management; and (5) List of Approved Decision Documents.

# 2.0 SITE-WIDE ACTIVITIES IMPLEMENTING RFCA AND SUPPORTING RFETS CLOSURE

## 2.1 Integrated Monitoring Plan Update

The FY05 Integrated Monitoring Plan (IMP) was released in its final form during this quarter. The plan lays out both the monitoring that is being performed in FY05 and the network configurations and sampling schedules that are planned for the interim period between completion of physical work and the final Corrective Action Decision/Record of Decision (CAD/ROD). This finalizes the most comprehensive review of monitoring systems since the IMP was first implemented in 1997.

A review of the IMP is scheduled to beginning in July. Few changes are expected during the review other than to update progress toward achieving the proposed monitoring system configuration, and the finalization of the groundwater network to align with monitoring requirements in the Present Landfill Interim Measure/Interim Remedial Action (IM/IRA) and the Original Landfill IM/IRA. Resulting revisions to the FY05 IMP will be published in the September/October timeframe.

## 2.2 Draft Remedial Investigation and Feasibility Study

RFCA paragraph 83 states "[f]ollowing implementation of all planned accelerated actions, CDPHE and EPA shall evaluate the Site conditions and render final remedial/corrective action decisions for each operable unit." The RFCA Parties have stated that final remedial/corrective action decisions will be made in a final CAD/ROD. To complete this process, the RFCA Parties developed a Final Work Plan for the Development of the Remedial Investigation and Feasibility

Study Report (Work Plan) in March 2002. The work plan contains 15 tasks. Through June 2005, five tasks are complete; four task work products are under regulator review. The remaining tasks are under various stages of development. When approved by the regulators, the Remedial Investigation/Feasibility Study Report (RI/FS Report) will be the basis for development of a Proposed Plan that describes the preferred proposed final remedy for RFETS. The Proposed Plan is the basis for the final CAD/ROD.

The RI/FS Report will present the findings of the field investigations, including the nature and extent of contamination, contaminant fate and transport, the comprehensive risk assessment results, the final remedial action objectives, and supports the development, screening and detailed analysis of remedial alternatives after the completion of the planned accelerated actions. Because remedial activities at RFETS are also being conducted under the Resource Conservation and Recovery Act (RCRA) and the Colorado Hazardous Waste Act (CHWA), the RI/FS Report will also meet the RCRA/CHWA requirements for a RCRA Facility Investigation/Corrective Measures Study report.

## 3.0 RFETS CLOSURE PROJECTS

RFETS closure activities conducted during the third quarter of FY05 included: (1) Industrial Area Operable Unit, Building (B) 771; (2) Industrial Area Operable Unit, B776/777; (3) Industrial Area Operable Unit, B371/374; (4) Industrial Area Operable Unit, B707; and (5) Remediation, Industrial & Site Services Project (RISS).

### 3.1 Industrial Area Operable Unit, B771 Closure Project

The B771 Closure Project Decommissioning Operations Plan (DOP) was approved by CDPHE on January 11, 1999. As of June 30, 2005, seven modifications to the DOP have been approved. The Closeout Report was submitted to CDPHE on May 25, 2005. Comments were received on June 20, 2005. A revised Closeout Report will be submitted to CDPHE in July 2005.

### 3.2 Industrial Area Operable Unit, B776/777 Closure Project

The B776/777 Closure Project DOP was approved by CDPHE on November 5, 1999. As of June 30, 2005, eleven minor modifications and one major modification to the DOP have been approved. The Demolition Plan was a major modification; it was approved on July 1, 2003. During the third quarter of FY05, the B776/777 Closure Project Team conducted the following activities:

1. Initiated structural demolition of B776/777 on March 3, 2005.
2. Completed demolition of the last remaining B776/777 building/foundation component, the D Pit, on June 17, 2005.
3. Completed the load out of all building debris on June 25, 2005.

There is no additional structural work remaining. The Closeout Report will be prepared and submitted to CDPHE during the third quarter of FY05. The site has been released to environmental restoration (ER) for remediation of the under building contamination (UBC) site.

### 3.3 Industrial Area Operable Unit, B371/374 Closure Project

The B371/374 Closure Project DOP was approved by CDPHE on March 29, 2001. As of June 30, 2005, five field modifications to the DOP have been approved. During the third quarter of FY05, the B371/374 Closure Project Team conducted the following activities:

1. CDPHE approved the Pre-Demolition Survey Report for Phase III on April 12, 2005. Completed demolition of Phase III activities.
2. Completed Phase IV and V decontamination activities and final surveys. The Final Status Survey Report (FSSR) was submitted to DOE and CDPHE in May of 2005. CDPHE approved the FSSR on May 13, 2005.
3. Completed decontamination activities in the B371 canyons.
4. Completed backfilling activities in the sub-basement. Completed sub-surface drain disruptions.
5. Initiated demolition activities in B371 on June 8, 2005. Continued load-out of debris and B-Pond soil into railcars.

### 3.4 Industrial Area Operable Unit, B707 Closure Project

The B707 Closure Project DOP was approved by CDPHE on January 18, 2001. As of June 30, 2005, three minor modifications to the DOP have been approved. The Closeout Report was submitted to CDPHE on June 20, 2005. Comments were received and a revised Closeout Report will be submitted to CDPHE in July 2005.

### 3.5 Remediation, Industrial & Site Services Project

RISS activities supporting RFETS closure during the third quarter of FY05 include decontamination and decommissioning (D&D) as well as ER.

#### 3.5.1 Decontamination and Decommissioning

During the third quarter of FY05, the RISS Closure Project Team conducted the following activities:

1. Demolished 41 facilities including Buildings 440, 444, 460, 559, 776 / 777, and 883.

2. Permanently closed the East Access to the site (East Access Road) and demolished East Guard Post (B920).

3. Completed the demolition and load out of B776/777.

4. Initiated the demolition of B371.

5. Demolished T130C, T664B and T664C trailers.

6. Demolished the 461, 515, 516, and 575 Pads.

7. Completed demolition/removal of 7 storage tanks.

8. Completed demolition of Tents 2, 3, and 14 (Barn Tent) from the 750 Pad.

9. Completed the removal of the 13.8 kV electrical distribution system by removing the remaining 28,774 feet of the 56,215 total feet.

10. Completed the demolition of electrical substations and switchgear facilities 517, 518, 520, 679, and 680.

11. Removed 3,742 feet of the 115 kV electrical transmission system for a total of 3,742 of 30,800 total feet.

12. Removed 140 feet of above ground steam lines (20,100 feet of 20,150 feet) with the remainder on buildings or under power lines.

13. Removed/closed 14,350 feet of water distribution system for a total of 59,065 of 84,412 total feet.

14. Removed/closed all sewer system manholes (180 total).

15. Removed an additional 2,518,511 square feet of RFETS asphalt for a total of 5,323,536 of 6,720,797 total square feet.

16. Received DOE approval on remaining 9 Utility Closure Plans for a total of 14 of 14 approved.

17. Completed closure/physical completion of 8 of 33 Sectors (4A, 4D, 5B, 6A, 6B, 6C, 7B, and 10A).

18. Completed all Aqueous Waste Treatment System shipments from Tank 231B.

During the fourth quarter of FY05, RISS will complete the demolition of Buildings 331, 371, 750 Pad, and 891. In addition, the West Access to the site will be demolished, the raw water system operations will be terminated and the Aqueous Waste Treatment Systems shipments will be completed.

### 3.5.2 Environmental Restoration

ER activities implementing RFCA and supporting closure during the third quarter of FY05 included: (1) Industrial Area (IA) Operable Unit (OU), Individual Hazardous Substance Site (IHSS) Group 500-3; (2) IA OU, IHSS Group 700-3; (3) IA OU, IHSS Group 800-3; (4) Buffer Zone (BZ) OU, IHSS Group NE-1 (Ponds B-1, B-2, B-3); (5) BZ OU, IHSS Group NE-1 (North Firing Range, Potential Area of Concern [PAC] NW-1505); (6) IA OU, IHSS Group 900-2; (7) BZ OU, IHSS Group 000-5 (Present Landfill) and IA OU, IHSS Group SW-2 (Original Landfill); and (8) Groundwater IM/IRA.

#### 3.5.2.1 IA OU, IHSS Group 500-3

IHSS Group 500-3 consists of UBC 559 – Service Analytical Laboratory; UBC 528 – Temporary Waste Holding Building; IHSS 500-159 – Radioactive Site, B559; and Tanks 33, 34, and 35.

A total of 116 accelerated action soil characterization samples were collected from 76 sampling locations in IHSS Group 500-3. Numerous samples were collected from soil adjacent to Original Process Waste Lines (OPWL) lines as these lines and the overlying slab were removed during D&D. All but one of the samples was analyzed for radionuclides, and two-thirds of all samples were analyzed for metals and volatile organic compounds (VOCs). Pesticides, herbicides, and polychlorinated biphenyls (PCBs) were each analyzed in two samples.

Plutonium-239/240 was detected at activities greater than the RFCA wildlife refuge worker (WRW) soil action levels (AL) in one surface soil sample and four subsurface soil samples. Americium-241 also exceeded its WRW AL at two of these locations. One radionuclide hot spot was identified in surface soil and two in subsurface soil as a result of these exceedences. Benzo(a)pyrene was detected at a concentration greater than its WRW AL at one sampling location near B528.

The surface soil hotspot beneath the B559 slab was initially excavated by removing a 12 feet (ft) by 12 ft area of slab and removing the soil beneath. The excavation continued after complete slab removal and confirmation sampling demonstrated that the hot spot had been removed.

The two other hot spots were located adjacent to an air tunnel at UBC 559 and beneath a manway that was removed between Buildings 528 and 559. Although these hot spots were deeper than 5 ft below ground surface and neither required remediation under RFCA, both were remediated to the same WRW AL that apply to surface soil. The subsurface soil in question had been exposed during D&D and therefore remediation was appropriate as a best management practice. Five confirmation samples were collected at the air tunnel hot spot and one at the manway hot spot. All were below WRW AL. The benzo(a)pyrene exceedence did not require remediation under RFCA, but was removed incidentally as part of D&D at B528.

The Closeout Report was approved by CDPHE on June 24, 2005.

### 3.5.2.2 IA OU, IHSS Group 700-3

IHSS Group 700-3 includes IHSS 118.1 and other outside IHSSs. Accelerated action activities at IHSS Group 700-3 were planned and executed in accordance with the IA Sampling and Analysis Plan (IASAP), IASAP Addendum #IA-03-04, the Environmental Restoration (ER) RFCA Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) Modification 1, and ER RSOP Notification #04-04. Activities were conducted between May 2003 and December 2004, and included soil characterization and removal activities. B730, Tanks T-9 and T-10, solvent-contaminated soil, and waste lines in the area were removed. A portion of the B730 slab (approximately 25 ft x 35 ft) remains at approximately 25 ft below grade. The B701 slab was also removed, as well as the radioactive hot spot under the slab and the fuel-oil line and oil-stained soil adjacent to the slab. In addition, OPWL, one valve vault, and radiologically contaminated soil north of B777 were removed. The ends of remaining lines were grouted. All excavations were backfilled, and remediated areas were graded. Final grading and reseeding will occur after the 776, 777 and 778 UBC projects have been completed.

Residual contaminant concentrations in surface and subsurface soil are less than RFCA WRW AL, with four subsurface exceptions. In addition, concentrations of VOCs in subsurface soil within IHSSs 118.1 and 132 may exceed WRW AL at depths greater than 20 ft. These exceptions were evaluated using the RFCA Subsurface Soil Risk Screen (SSRS), and based on the evaluation, it was determined that no additional soil removal was necessary. In addition, Hydrogen Release Compound® was added during backfilling of the IHSS 118.1 excavation to reduce residual VOC contamination in subsurface soil.

The Closeout Report was approved by CDPHE on April 19, 2005.

### 3.5.2.3 IA OU, IHSS Group 800-3

IHSS Group 800-3 consists of UBC 883, Roll and Form Building; PAC 800-1200, Valve Vault 2; PAC 800-1201, Radioactive Site South of B883; and portion of IHSS 000-121,OPWL, including Tanks 25 and 26.

Accelerated action activities were conducted between August 2004 and April 2005, and included soil characterization and removal of structural features. The B883 slab, all equipment pads and pits, air tunnels and connections to the plenum building, and foundation columns were removed. The remaining structures include deep column pads, a portion of the rolling mill foundation, four caissons under the eastern 2,000-ton press pit, the tunnel between Buildings 883 and 881, and a small section of the B883 foundation to support the remaining tunnel. All remaining structures are uncontaminated. New Process Waste Lines (NPWL) from Valve Vault 2 to B883 and from Valve Vault 2 to Valve Vault 1 were removed. NPWL from Valve Vault 2 to Valve Vault 3 were not removed, but were clean-closed in accordance with the RCRA/CHWA Permit. Valve Vault 2 was removed to greater than 4 ft below ground surface and grouted. All OPWL under B883 were removed as well as OPWL from approximately 4 ft east of Valve Vault 2 to B883. Remaining OPWL were grouted. Sanitary lines under and adjacent to B883 were removed, as

well as the lift station south of the building. Storm and foundation drains under and adjacent to B883 were removed. The storm drain southeast of B883 remains.

Surface and subsurface soil samples were collected from 108 sampling locations. Analytes included radionuclides, metals, VOCs, semi-volatile organic compounds (SVOCs), and PCBs. Several of the soil sampling locations specified in the Industrial Area Sampling and Analysis Plan Addendum could not be sampled because of the large amount of gravel located underneath much of B883. Much of the gravel extended down to bedrock. Instead, the sampling team inspected the area after the building slab was removed to identify areas with gravel staining and to sample soil at those locations. However, no staining was observed. Soil samples were collected as possible where exposed (e.g., underneath waste lines, pits, and other deep features) or where there was evidence that the gravel layer was relatively thin. The gravel was also surveyed for radiological contamination. In addition, water in the building excavation and mud/sediment in the gravel were sampled.

Analytical results for soil indicate all contaminant activities and concentrations were less than RFCA WRW soil AL. Analytical results for the water sample indicate that all activities and concentrations were less than RFCA Tier II groundwater AL, with one exception. Uranium-238 was detected at 1.74 picocuries per liter (pCi/L), and the Tier II AL is 0.768 pCi/L (the Tier I AL is 76.8 pCi/L); however, the detected activity did not exceed the surface water standard. Also, uranium isotopic ratios were assessed in downgradient well 83201, and have a natural signature. Analytical results for the mud/sediment sample indicate all contaminant activities and concentrations were less than RFCA WRW soil AL. No elevated instrument readings were detected during radiological surveys of the remaining gravel (at least the first foot of gravel under all removed structures was removed).

The Final Closeout Report for IHSS Group 800-3 was approved by CDPHE on June 7, 2005.

### 3.5.2.4 BZ OU, IHSS Group NE-1 (Ponds B-1, B-2, B-3)

IHSS Group NE-1 consists of the A-, B-, and C-series retention ponds and the North Firing Range. The B-series ponds are located in the South Walnut Creek drainage, downstream of the 900 Area, and include Pond B-1 (IHSS 142.5), Pond B-2 (IHSS 142.6), Pond B-3 (IHSS 142.7), Pond B-4 (IHSS 142.8), and Pond B-5 (IHSS 142.9).

Accelerated action sampling began with the collection of biased soil characterization samples at 65 locations within the B-series ponds. These samples were analyzed for radionuclides only. The characterization samples were collected to determine the lateral extent of radiological contamination present in the study area and define initial excavation boundaries. Results of characterization sampling indicated the presence of radionuclides at activities greater than WRW AL at 30 locations.

Following the excavation of sediment in Ponds B-1, B-2, and B-3, in-process and confirmation samples were collected. All samples were analyzed for radionuclides and approximately 11 percent of the samples were analyzed for metals, PCBs, SVOCs, and VOCs. Analytical results

indicated activities at only four sampling locations exceeded WRW AL for radionuclides. Following overexcavation of these 4 locations, all confirmation samples indicated results were below WRW AL.

Approximately 40,500 cubic yards (cy) of sediment and soil were removed from Ponds B-1, B-2, and B-3 during ER remediation activities. Confirmation sampling indicated there were no exceedances of RFCA WRW AL and cleanup objectives had been met.

Reconfiguration of Ponds B-1, B-2, and B-3 included backfilling the excavations with clean fill material and regrading to create a low-energy environment that includes oxbows, backwater eddies, meandering channels, and establishment of wetlands in each of the former ponds. The thickness of clean fill below the centerline of the flow channel varies from approximately 4 ft to 16 ft throughout the ponds. Establishment of this low-energy environment will serve to minimize erosion and the potential mobilization of residual contaminants.

The Final Closeout Report for IHSS Group NE-1 (Ponds B-1 [IHSS NE-142.5], B-2 [IHSS NW-142.6], and B-3 [IHSS NE-142.7]) was approved by EPA on May 12, 2005.

### 3.5.2.5 BZ OU, IHSS Group NE-1 (North Firing Range)

IHSS Group NE-1 consists of the A-, B-, and C-series retention ponds and the North Firing Range (PAC NW-1505).

A total of 61 accelerated action soil characterization locations were sampled in the North Firing Range. Characterization samples were analyzed for metals to determine the areal extent of contamination in the firing range area. Twenty-six sampling locations contained arsenic results, derived via the SW-846 6200 method, greater than the WRWAL of 22.2 milligrams per kilogram (mg/kg). However, through the consultative process it was agreed that the North Firing Range remediation of arsenic WRW AL exceedances analyzed using the SW-846 6200 methodology was not warranted. Arsenic concentrations determined using the SW-846 6200 method (on-site, x-ray fluorescence [XRF]) are up to several orders of magnitude greater than those determined using the SW-846 6010 method (off-site, inductively coupled plasma [ICP] spectrometry).

Three soil sampling locations (BW53-001, BV53-036 and BV53-055) had surface soil lead concentrations greater than the RFCA WRW soil AL. Concentrations were 3,500, 1,680 and 6,200 mg/kg, respectively, and the WRW soil AL for lead is 1,000 mg/kg. These three locations were identified for soil removal in ER RSOP Notification #05-05.

ER accelerated action activities to remove the lead-contaminated soil were conducted between March 29 and April 11, 2005. Activities consisted of removing soil, collecting and analyzing soil samples to confirm that remaining soil concentrations were less than the AL, and conducting additional soil removal as necessary. One of the locations required four distinct removal events, one required two removal events, and one location only required one removal event. Approximately 32 cubic yards (cy) of soil were excavated and disposed. The areal extent of the excavation was approximately 522 square feet ($ft^2$). All excavations were backfilled.

In addition, a drainage culvert, located in between two of the excavation areas, was removed. Three confirmation samples were collected along the culvert, and analytical results indicated that all metal concentrations were less than the WRW soil AL.

The Final Closeout Report for IHSS Group NE-1 (North Firing Range [PAC NW-1505]) was approved by EPA on June 13, 2005.

### 3.5.2.6 BZ OU, IHSS Group 900-2

IHSS Group 900-2 consists of IHSS 900-153 – Oil Burn Pit No. 2 and IHSS 900-154 – Pallet Burn Site. IHSS Group 900-2 is located near the southeast corner of the former protected area (PA).

Accelerated action soil data were obtained at 102 locations during several sampling events at IHSS Group 900-2. Thirty-six characterization locations were sampled from April 2002 to January 2004 in IHSSs 153 and 154. Of the 36 characterization locations sampled in IHSSs 153 and 154 from April 2002 through January 2004, one or more analytes, including arsenic, Aroclors 1254 and 1260, tetrachloroethene (PCE), and trichloroethene (TCE), exceeded RFCA WRW AL in 6 sampling locations. Analyses performed on these characterization soil samples included metals, PCBs, pesticides, radionuclides, SVOCs, and VOCs. During soil remediation activities conducted at IHSS 900-153 from January through March 2005, 66 characterization, in-process, and confirmation sampling locations were sampled. Of the 66 locations sampled during the remediation activities, 55 locations, classified as in-process and confirmation locations, were sampled within the IHSS 900-153 remediation area. Nine of the remaining 11 locations, classified as characterization locations, were sampled northwest of the remediation area to determine soil conditions in the vicinity of Functional Channel 5. The remaining two characterization locations were sampled in IHSS 153 before remediation activities started. One or more analytes including Aroclors 1254 and 1260, PCE, and TCE exceeded RFCA WRW AL in 15 sampling locations. Analyses for the January through March 2005 samples included dioxin/furans, PCBs, radionuclides, and VOCs.

Following excavation of contaminated soils, confirmation sampling indicated that all remaining contaminant concentrations were below RFCA WRW AL. The excavation area and clean backfill soil at IHSS 900-153 were treated with hydrogen release compound (HRC®). Approximately 1,370 cy of contaminated soil was excavated at IHSS 900-153 for the purpose of removing the source area and to reduce potential impacts to groundwater.

The Final Closeout Report for IHSS Group 900-2 was approved by CDPHE on June 13, 2005.

### 3.5.2.7 BZ OU, IHSS Group 000-5 (Present Landfill) and IA OU, IHSS Group SW-2 (Original Landfill)

**IHSS Group 000-5 (Present Landfill)**

The Present Landfill IM/IRA decision document was approved by CDPHE and EPA on August 23, 2004. Construction of the accelerated action is now complete (06/02/2005) and the draft Construction Certification Report was submitted to the agencies on May 23, 2005, for their review.

**IHSS Group SW-2 (Original Landfill)**

The Original Landfill (OLF) IM/IRA was approved by CDPHE and EPA on April 28, 2005. The Original Landfill design was approved on May 13, 2005. The OLF site preparation activities were started on February 28, 2005 and completed in the third quarter of 2005. Site preparation activities included monitor well removal, tree removal, road improvements, staging area preparations. Construction activities were started on May 13, 2005 and are on going.

### 3.5.2.8 Groundwater Interim Measure/Interim Remedial Action

The purpose of the Groundwater IM/IRA is to identify accelerated actions for remediation of shallow groundwater contamination at RFETS. Although the shallow groundwater at RFETS, which constitutes the upper hydrostratigraphic unit (UHSU) at RFETS, is not utilized as a source of drinking water, it can present a potential exposure pathway to the ground surface via seeps and groundwater discharge to surface water. The majority of UHSU groundwater is not contaminated, nor do areas of groundwater contamination extend to the RFETS boundary. However, there are areas within the IA OU with measured elevated concentrations of groundwater contaminants. These areas are the subject of accelerated actions proposed in the IM/IRA. The 45-day public review and comment period started on December 13, 2004. DOE granted an extension to the comment period; the comment period closed on February 10, 2005. The document is currently being revised to address the public comments and is scheduled to be finalized in July 2005.

### 3.5.2.9 Status of ER Documents

Table 1 lists the status of ER Documents from April 1, 2005 through June 30, 2005.

**Table 1. Status of ER Documents**

| IHSS Groups | Status | Date to Agencies | Approval Date |
|---|---|---|---|
| Closeout Reports | | | |
| IHSS Group 500-3 | Received Approval | 6/16/2005 | 6/24/2005 |
| IHSS Group 700-3 | Received Approval | 3/7/2005 | 4/19/2005 |
| IHSS Group 900-2 | Received Approval | 5/16/2005 | 6/13/2005 |
| IHSS Group 800-3 | Received Approval | 5/12/2005 | 6/9/2005 |
| IHSS Group NE-1 B- Ponds | Received Approval | 4/7/2005 | 5/12/2005 |
| IHSS Group NE-1 North Firing Range | Received Approval | 5/6/2005 | 6/13/2005 |
| Other | | | |
| FY2003 Annual Update to the HRR | | September 2003 | 4/282005 |
| FY2004 Annual Update to the HRR | | September 2004 | 4/28/2005 |
| Original Landfill IM/IRA | Received Approval | 3/16/2005 | 4/28/2005 |
| Groundwater IM/IRA | Addressing Final Public Comment | | |
| Present Landfill Closure | At Regulatory Agencies | May 23, 2005 | |

## 4.0 WATER MANAGEMENT

Water management activities during the third quarter of FY05 included: (1) Watershed Improvements; (2) Surface Water Management; (3) Surface Water Monitoring; and (4) Groundwater Monitoring.

### 4.1 Watershed Improvements

Dam activities completed during the third quarter of FY05 included revision of the C-2 Outlet Modification design and approval by the State Engineer's Office, inspection of the damaged upstream gate at B-5 and development of repair requirements, and completion of as-built drawings for modifications to C-1 and transmittal to the State Engineer's Office. Crest monument and inclinometer monitoring were performed in June 2005.

Storm water pollution prevention practices (silt fences, straw bales, mats, wattles, recontouring patterns, etc.) were implemented for various RFETS demolition projects to minimize storm water runoff, erosion, and sediment transport into the drainage system. Inspections for the annual CSCE report are ongoing with inspections of facilities, stormwater features, tanks, and spill response equipment.

Field inspections of storm water culverts and structures continued. As in previous years, the closure activities have resulted in some existing structures being removed, and some new culverts installed due to the addition of temporary roads and new facilities. Where appropriate, storm water culverts are being identified for removal.

## 4.2 Surface Water Management

During the third quarter of FY05, Kaiser-Hill completed the following pond water transfers and discharges totaling 47.52 Million Gallons (MG), an increase of 3% compared to the third quarter of FY04 (46.20 MG).

Pond A-4 water was treated to lower elevated levels of americium and pump transferred to Pond A-3 twice during the third quarter, one transfer of 7.57 MG from March 31 through April 15, 2005 and another of 3.15 MG from May 10 through May 18, 2005.

Pond A-3 activity included a pump transfer of treated A-4 water to North Walnut Creek (NWC) of 8.39 MG from April 29 through May 6, 2005 and one outlet-valve direct discharge to Pond A-4 totaling 2.14 MG occurring during the period of June 11 through 13, 2005. For discharge into NWC, water-quality samples were collected and analyzed. Water-quality data met all requirements and all approvals; notifications were performed prior to the discharge to NWC. The City of Broomfield opted not to impound this Pond A-3 discharge within Great Western Reservoir.

Flows from North Walnut Creek were diverted into Pond A-2 in lieu of Pond A-3 during the third quarter of FY05, and subsequently pump transferred to Pond B-5 via Pond B-4. Pump transfer of approximately 10 MG of water from Pond A-2 to Pond B-4 occurred from April 19 through May 18, 2005.

Pond B-5 activity included a discharge to South Walnut Creek (SWC) totaling 16.05 MG from April 28 through May 19, 2005, and a pump transfer of B-5 to A-4 of 0.22 MG on May 19, 2005. For discharge into SWC, water-quality samples were collected and analyzed. Water-quality data met all requirements and all approvals; notifications were performed prior to the discharge to SWC. The City of Broomfield opted not to impound this Pond B-5 discharge within Great Western Reservoir.

No water was discharged from Pond C-2 during the third quarter.

There were no other internal pond transfers during the third quarter.

Transfers and discharges from the RFETS ponds during the third quarter of FY05 are summarized in Table 2.

**Table 2. RFETS Pond Water Transfers and Discharges - Third Quarter of FY05**

| Dates | Pond Activity | Total MG | Mode |
|---|---|---|---|
| 3/31 to 4/15 | A-4 to A-3 | 7.57 | Pump transfer |
| 4/19 to 5/18 | A-2 to B-4 | 10.00 | Pump transfer |
| 4/28 to 5/19 | B-5 to SWC | 16.05 | Outlet valve direct discharge |
| 4/29 to 5/6 | A-3 to NWC | 8.39 | Pump discharge |
| 5/10 to 5/18 | A-4 to A-3 | 3.15 | Pump transfer |
| 5/19 | B-5 to A-4 | 0.22 | Pump transfer |
| 6/11 to 6/13 | A-3 to A-4 | 2.15 | Outlet valve direct discharge |
| | **Total for Quarter** | **47.52 MG** | |

## 4.3 Surface Water Monitoring

During April and May of 2005, 134 composite samples were collected by the RFCA automated monitoring network and submitted for analysis.

Monitoring locations 371BAS, 371SUBBAS, GS43, and GS39 were all removed during the third quarter of FY05. These locations were removed to make way for Closure projects or because drainage reconfiguration had eliminated flow to the location.

Reportable 30-day average values for plutonium (Pu) and americium (Am) were observed for the period from February 2 through April 11, 2005 using validated data at Point of Evaluation (POE) GS10. Additional data are being validated. A RFCA Notification update was transmitted to DOE, EPA, and CDPHE on May 18, 2005.

Reportable 30-day average values for Pu were observed for the period from March 3 through April 5, 2005 using validated data at POE SW093. As of April 6, 2005, Pu was not longer reportable. DOE transmitted a RFCA Notification letter to EPA and CDPHE on April 28. 2005. No specific source evaluation is planned at this time, but a monitoring data update was transmitted to DOE and the regulators on May 18, 2005.

A review of all analytical data available through June 1, 2005 showed that the 30-day moving average values for all other POE and POC locations were under the RFCA action levels and standards framework for all monitored analytes.

## 4.4 Groundwater Monitoring

The Quarterly Information Exchange Meeting was convened on June 28, 2005. The results of the First (calendar) Quarter 2005 Groundwater Monitoring Report were presented at the meeting.

Other activities completed during the third quarter of FY05 included:

1. Sampled 91 IMP wells and 16 Well Abandonment and Replacement Program wells. Two hundred eighty one groundwater samples were shipped to off-site laboratories for

analysis. Sampling of 3 additional wells was attempted but the wells were dry. Eighty-eight water level measurements were also completed.

2. The Well Abandonment and Replacement Program abandoned 105 wells. To date, 237 out of 276 WARP wells have been abandoned. Sixteen new wells (20205, 20505, 20705, 91305, 22205, 99305, 99405, 79605, 52505, 91105, 39605, 73005, 73105, 73205, 51605, and 88205) were installed during the quarter.

## 5.0 APPROVED DECISION DOCUMENTS

The following document will be included in the next update to RFCA Attachment 12 in accordance with RFCA paragraph 122:

U.S. Department of Energy, Final Interim Measure/Interim Remedial Action for the Original Landfill (including IHSS Group SW-2 IHSS 115, Original Landfill and IHSS 196, Filter Backwash Pond), Rocky Flats Environmental Technology Site, Golden, Colorado, March 10, 2005. Approved by EPA and CDPHE on April 28, 2005.